

REMARKS

Claims 1-17 and 30 are pending in this application, and claims 5, 8, 9 and 12-14 are withdrawn from consideration.

I. Rejection Under 35 U.S.C. §112, first paragraph

Claims 1-4, 6, 7, 10, 11, 15-17 and 30 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is respectfully traversed.

The Patent Office alleges that the recitation "during a normal braking operation" as recited in claims 1, 2 and 4 is allegedly not supported by the original disclosure. Applicant respectfully disagrees.

There is no requirement that claim limitations must be supported in the specification *in haec verba*. See MPEP §2163.I.B. So long as the overall concept is conveyed in the specification, the written description requirement is satisfied. Applicant submits that the specification, when read as a whole, clearly identifies the "normal braking operation" recited in the present claims.

For example, the specification describes the operation to control valves 86, 88, 90 and 92, by reference to the flow chart of Fig. 9. See paragraphs [0130] to [0133]. Specifically, steps S3, S4, S6 and S7 of the flow chart indicate the operation to control the pressure control valve 86 on the basis of the operating stroke or force of the brake operating member 24, for regulating the brake cylinder pressure in the normal braking operation, such that the pressure of the working fluid in said brake cylinder changes with a change of the operating amount of the manually operable brake operating member, as recited in claims 1, 2 and 4.

Moreover, Applicant submits that one of ordinary skill in the art is well aware of the meaning of the term "normal braking operation" as evidenced by, for example, previously applied reference to EP 0 950 593 ("EP '593") and presently applied reference U.S. Patent No.

6,322,168 ("Ohnuma"). Specifically, the "normal braking operation" is a braking operation in which the pressure of the working fluid in the brake cylinder is controlled such that the brake cylinder fluid pressure changes with a change of the operating amount of a manually operable brake operating member. See, for example, EP '593 which uses the term "normal braking operation" with an operation of a brake pedal (page 38, line 5; and Fig. 23), as distinguished from "automatic braking operation" without an operation of the brake pedal (page 38, line 20). One of ordinary skill in the art easily understands the meaning of the term "normal braking operation" as distinguished from "anti-lock braking operation" (for example at column 5, lines 30-31 of previously applied JP 11-91530 and its English language equivalent U.S. Patent No. 6,095,622 ("Oishi"), and column 1, lines 36-37 of Ohnuma), "traction control braking operation" (for example at column 6, lines 10-11 of Oishi), "automatic braking operation" (for example at page 36, line 20 of EP '593), "constant-speed cruising control braking operation" (for example at column 6, lines 50 of Oishi), and any other special braking operations in which the brake cylinder fluid pressure does not change with a change of the operating amount of a brake operating member, that is, the brake pedal.

As illustrated in the flow chart of Fig. 9 of the present specification and as clear from the present specification, one of ordinary skill in the art would understand that the normal braking operation as recited in the present claims refers to a conventional mode of braking operation well known prior to the development of anti-lock, traction, automatic and any other special braking controls. This is also clear from previously applied references, such as in U.S. Patent No. 4,838,619 ("Ocvirk") and Oishi, neither of which uses the term "normal braking operation," although a "normal" braking operation is described therein. See, for example, column 5, lines 28-51 of Ocvirk and column 5, lines 5-26 of Oishi.

In view of the overall description in the specification, and as evidenced by the previously and presently applied references, for example as summarized above, Applicant

submits that the term "normal braking operation," as recited in claims 1-4, 6, 7, 10, 11, 15-17 and 30 is supported by the original written description and that the meaning is well understood in the art such that use of the term alone satisfies the written description requirement. Thus, Applicant submits that claims 1-4, 6, 7, 10, 11, 15-17 and 30 are supported by the original written description. Reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejection Under 35 U.S.C. §102(e)

Claims 1, 10, 11, 15, 16 and 30 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,322,168 ("Ohnuma"). This rejection is respectfully traversed.

The Patent Office alleges that at least one of regulator switching solenoid (STR) 26 and proportioning valve (P valve) 34 is allegedly equivalent to the flow-rate changing device recited in the rejected claims. Applicant respectfully disagrees. Claim 1 recites that the flow-rate changing device changes a relationship between a rate of fluid flow from the master cylinder into the brake cylinder and a rate of fluid flow into the master cylinder, according to an operating amount of the brake operating member.

However, STR 26 and P valve 34 do not change the above-described relationship of the fluid flow rates according to the operating amount of the brake operating member. In particular, P valve 34 is a well known valve for reducing the braking pressure to be applied to rear wheel brake cylinders 44RR, 44RL, with respect to the braking pressure to be applied to front wheel brake cylinders 44FR, 44FL. Namely, the P valve 34 is arranged to apply master cylinder pressure $P_{M/C}$ as generated by master cylinder 32, to the front wheel brake cylinders 44FR, 44FL via first fluid pressure passage 36, and to reduce the master cylinder pressure $P_{M/C}$ and apply the reduced master cylinder pressure to the rear wheel brake cylinders 44RR,

44RL via second fluid pressure passage 38. See, for example, column 5, lines 59-65 of Ohnuma.

Further, STR 26 is in communication with accumulator 20 via high-pressure passage 22, and regulator 24 via control fluid pressure passage 29. In other words, STR 26 receives accumulator pressure P_{ACC} (see column 13, line 36-37 of Ohnuma), and regulator pressure P_{RE} (see column 5, lines 33-34 of Ohnuma). The regulator pressure P_{RE} is the pressure within a pressure chamber in regulator 24, which corresponds to operating force F_p of brake pedal 30 and which is applied to the master cylinder 32. See column 5, lines 21-34 of Ohnuma.

The STR 26 is communicable with wheel brake cylinders 44 via third fluid pressure passage 42, to apply either the regulator pressure P_{RE} or the accumulator pressure P_{ACC} , depending upon an operating state of the STR 26 controlled by ECU 10. See column 6, lines 8-12 of Ohnuma. In the normal braking operation, various solenoid valves including the STR 26 are placed in the off states of Fig. 1 of Ohnuma, so that fluid pressure corresponding to the brake operating force F_p is applied to the wheel brake cylinders 44 via the first and second fluid pressure passages 36, 38. See column 8, lines 13-32 of Ohnuma. In an anti-lock braking operation (ABS control), the regulator pressure P_{RE} is applied to the upstream side of each of holding solenoid valves 50, 52, 68, 70. See column 9, lines 9-17 of Ohnuma. In an emergency braking operation with a relatively large amount of operation of brake pedal 30 at a relatively high speed, the STR 26 is turned on by the ECU 10, to connect the third fluid pressure passage 42 to the high-pressure passage 22, so that the accumulator pressure P_{ACC} is introduced into the passage 42 and applied to the wheel brake cylinders 44. See column 11, lines 23-31, and column 12, lines 29-38 and 61-66 of Ohnuma.

As described above in detail, the STR 26 is not arranged or able to change the relationship between the rate of fluid flow from the master cylinder 32 into the brake cylinder 44 and the rate of fluid flow into the master cylinder 32, or change the rate of fluid flow into

the brake cylinder, which rate corresponds to a given rate at which the pressurized fluid is delivered into the master cylinder, during the normal operation.

Although the above-indicated relationship in the braking system of Ohnuma is changed between the normal braking operation and the anti-lock braking operation, the relationship is not changed during the normal braking operation. The emergency braking operation of Ohnuma in which the fluid having the accumulator pressure P_{ACC} flows into the wheel brake cylinders 44 through the STR 26 is considered to be the normal braking operation within the meaning of present claim 1. In the emergency braking operation of Ohnuma, however, the fluid having the accumulator pressure P_{ACC} does not flow into the master cylinder 32 and does not flow from the master cylinder 32 into the wheel brake cylinders 44, but flows into the wheel brake cylinders 44 through the STR 26, which is not a part of the master cylinder 32.

Therefore, contrary to the Patent Office allegations, P valve 34 and STR 26 do not function as the flow-rate changing device as recited in the present claims, which clearly recite that the flow-rate changing device is operable to change a relationship between the rate of flow of the fluid from the master cylinder and the rate of flow of the fluid into the master cylinder.

For the foregoing reasons, Applicant submits that Ohnuma does not teach or suggest all of the features recited in claims 1, 10, 11, 15, 16 and 30. Reconsideration and withdrawal of the rejection are thus respectfully requested.

III. Rejoinder

Claims 5, 8, 9 and 12-14 are currently withdrawn from consideration. However, as these claims depend from claim 1, rejoinder is respectfully requested upon allowance of claim 1.

IV. Allowable Subject Matter

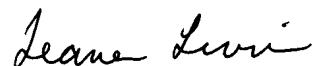
Applicant submits that upon overcoming the rejection under 35 U.S.C. §112, first paragraph, claims 2, 4, 6, 7 and 17 will be in condition for allowance as these claims were not rejected under 35 U.S.C. §102(e).

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-17 and 30 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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